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Riparian-Wetland Initiative for the 1990's

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U.S. Department of the Interior
Bureau of Land Management

September 1991

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
WASHINGTON, D.C. 20240

OFFICE OF THE DIRECTOR

Dear Secretary Lujan:

Riparian-wetland areas comprise less than 10 percent of the 270 million acres of public lands administered by the Bureau of Land Management. The benefits of these vital oases, however, far exceed the relatively small acreage they occupy.

One of my chief goals is to achieve proper functioning conditions on these 23.7 million acres, in order to provide the widest variety of vegetation and habitat diversity for wildlife, fish, livestock, and watershed protection.

This Riparian-Wetland Initiative summarizes our management efforts to date and sets forth our goals and the strategies to achieve them.

It is an ambitious program, but with the support of the public, the Congress, and all affected interests, we will succeed in meeting our overall goal of healthy riparian-wetland areas.

Everyone can be a winner if we just work together.

Director, BLM

September 1991

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Executive Summary

This Riparian-Wetland Initiative for the 1990's provides a blueprint for management and restoration of riparian-wetland areas encompassing 23.7 million acres of BLM lands. This overall national strategy complements other plans such as Waterfowl Habitat Management on Public Lands, A Strategy for the Future; Fish and Wildlife 2000; Range of Our Vision; and Recreation 2000 in an interdisciplinary, multi-program, cooperative effort.

Four nationwide riparian-wetland goals have been established:

- Restore and maintain riparian-wetland areas so that 75 percent or more are in proper functioning condition by 1997. The overall objective is to achieve an advanced ecological status, except where resource management objectives, including proper functioning condition, would require an earlier successional stage.

- Protect riparian-wetland areas and associated uplands through proper land management and avoid or mitigate negative impacts. Acquire and expand key areas to provide for their maximum public benefit, protection, enhancement, and efficient management.

- Ensure an aggressive riparian-wetland information/outreach program, including providing training and research.

- Improve partnerships and cooperative restoration and management processes in implementing the riparian-wetland initiative.

Broad-based implementation strategies to achieve these goals have been established as well, with the major strategies falling into the following categories:

- **Inventory/Classification.** Collect, compile, and evaluate baseline information to determine current ecological status, potential, and condition.

- **Land Use and Activity Plan Preparation/ Revision.** Develop/revise plans that involve riparian-wetland areas prescribing actions to meet management objectives.

- **Project Development/Maintenance.** Complete projects such as fences, water developments, tree planting, prescribed fire, and habitat improvement structures to create, improve, and/or maintain riparian-wetland conditions. Maintain projects to continue their beneficial use.

- **Monitoring.** Monitor to determine if management actions are meeting specific objectives for riparian-wetland areas.

- **Protection/Mitigation.** Avoid or mitigate the impact of surface disturbance activities on riparian-wetland areas.

- **Acquisition/Expansion.** Acquire and expand riparian-wetland areas primarily through land exchanges.

Achieving the goals is contingent on receiving the necessary funding, support, and cooperation.

The approximate cost to achieve the riparian part of this Initiative is estimated to be $85 million from 1991 to 1995. A total of 300 additional riparian positions of various skills will be required. The wetland management part of this Initiative will require approximately $10 million for inventory, coordination and partnerships, and planning habitat development over the next 10 years. Also, it is estimated that it will cost approximately $32 million to implement the planned riparian-wetland expansions and acquisitions over the next 20 years. In summary, the total cost will be approximately $127 million, plus $2 million annually for wetland maintenance.

This Initiative does not establish specific objectives or priorities for actions. Most actions will be taken at the field level. Each state, through their individual strategic plans, establishes specific objectives and priorities to implement this Initiative consistent with laws, regulations, policy, and funding.

Introduction

In October 1988, President Bush stated, "My position on wetlands is straightforward: All existing wetlands, no matter how small, should be preserved." The President on numerous occasions has continued to issue the wetlands challenge of *"no net loss"* across the nation. The Domestic Policy Council through its Inter-Agency Task Force on Wetlands, has been directed by the President to develop recommendations regarding attainment of the goal of no net loss of the nation's wetlands. When the policy on attainment of the goal is set, BLM will refine its actions accordingly through individual state strategic plans. This Initiative, therefore, does not propose a definition for no net loss nor does it establish a no net loss policy. BLM is committed to the wise management of the riparian- wetland resources on public lands and will continue in its efforts to meet the President's challenge as mandated through numerous laws and Executive Orders.

The 270 million acres of public lands administered by BLM have many exceptional and varied resources of value to the nation. Riparian-wetland areas, those lush green areas of vegetation bordering lakes, ponds, rivers, streams, and wet meadows represent some of the most biologically and economically valuable areas the bureau is entrusted to manage. BLM manages approximately 23.7 million acres and 182,000 miles of riparian-wetland areas in Alaska and the 11 contiguous western states, as well as small tracts in Minnesota, Alabama, Arkansas, Florida, Louisiana, and Mississippi. Riparian-wetland areas are 8.8 percent of the total land managed by BLM, including Alaska, and 0.7 percent of the total land excluding Alaska (Table 1).

What is a Riparian-Wetland Area?

BLM's 1987 policy statement on riparian area management defines a riparian area as "an area of land directly influenced by permanent water. It has visible vegetation or physical characteristics reflective of permanent water influence. Lakeshores and streambanks are typical riparian areas. Excluded are such sites as ephemeral streams or washes that do not exhibit the presence of vegetation dependent upon free water in the soil." (See Figure 1.)

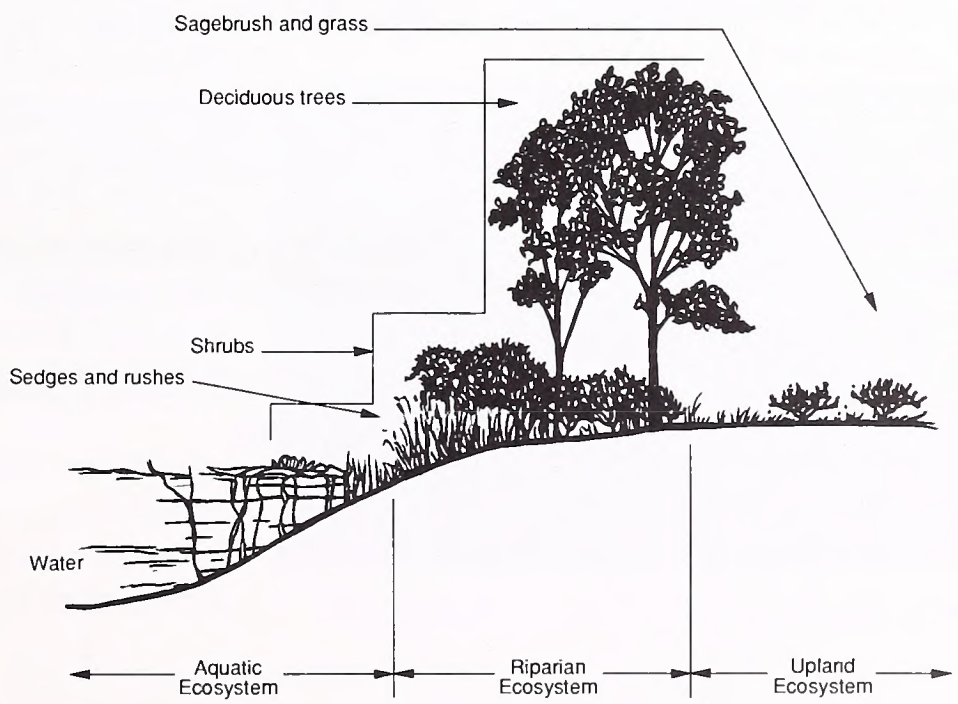


Figure 1. Aquatic-riparian-upland ecosystem.

Table 1. Estimated riparian-wetland acreage by state.

State	BLM-Administered Land (Acres) [1]	Riparian-Wetland (Acres) [1]	Riparian-Wetland Area (Percent)	Riparian Stream (Miles)
Alaska	92,741,000	22,411,000	24.17	133,000
Arizona	12,429,000	42,930	0.35	1,410
California	17,205,000	227,000	1.32	1,420
Colorado	8,277,000	67,850	0.82	3,750
Eastern States [2]	1,224,000	41,000	3.35	60
Idaho	11,868,000	69,000	0.58	4,680
Montana [3]	8,417,000	222,700	2.65	9,000
Nevada	47,963,000	75,250*	0.16	2,170
New Mexico [4]	12,873,000	27,600	0.21	250
Oregon/Washington	16,004,000	194,000	1.21	9,420
Utah	22,142,000	215,840	0.97	5,600
Wyoming [5]	18,413,000	127,000	0.69	11,560
Total	269,556,000	23,721,170	8.80	182,320

[1] Based on Public Land Statistics, 1989, except where information was unavailable. Those items denoted by an asterisk are based on more recent data.
[2] Includes all states east of a line approximating the 100th Meridian.
[3] Includes lands in North Dakota and South Dakota.
[4] Includes lands in Oklahoma and Kansas.
[5] Includes lands in Nebraska.

The Federal Manual for Identifying and Delineating Jurisdictional Wetlands defines wetlands as areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support and which, under normal circumstances, do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands include marshes, shallows, swamps, lakeshores, bogs, muskegs, wet meadows, estuaries, and riparian areas.

Although there are technical distinctions between riparian areas and wetlands, they are linked for discussion purposes in this document.

Alaska Wetlands - A Special Situation

Alaska contains a large percentage of wetlands. Under the current definition it is estimated that:

- 45 percent (170 million acres) of Alaska's 375 million acres are wetlands
- 74 percent of Alaska's nonmountainous area are wetlands

BLM manages 133,000 miles of riparian stream habitat and 22 million acres of riparian-wetlands in Alaska.

- BLM manages about 22 million acres of Alaska's riparian-wetlands

Most of the wetlands managed by BLM in Alaska are significantly different from wetlands in the 48 contiguous states. A major portion of Alaska's wetlands is underlain by permafrost and thus does not support all the biological or physical functions wetlands do in nonarctic climates. Wetland areas in Alaska do, however, provide some very productive seasonal habitat for waterfowl, and browse for moose and caribou. Wetlands over permafrost have little impact on recharging or discharging of aquifers, and they have little value for flood control or water storage.

Although inventories are not complete on BLM Alaska wetlands, initial analysis indicates that most of these areas are in their natural condition. Only a small proportion (80,000 acres or .4 percent) has been disturbed through human activity.

Alaska's strategic plan for BLM riparian and wetland areas is addressing these unique conditions and characteristics. Emphasis is being placed on completing initial inventories and evaluations and maintaining these areas in their natural state. Emphasis is also being placed on avoiding impacts

Prairie potholes, North Dakota, are one type of wetland.

and mitigating to the maximum extent practicable those that are unavoidable. BLM is restoring and reclaiming areas disturbed by such activities as road building, mining, and oil and gas development. The strategic plan for management of Alaska's riparian and wetland areas will continue to be refined as additional information is developed and further guidance is provided.

Importance of Riparian-Wetland Areas

Healthy riparian-wetland areas provide values and benefits far in excess of the small percentage of the public lands they occupy. When a riparian-wetland area is healthy and functioning, its lush vegetation:

- Contributes to improved water quality and removal of sediment as the water moves through

- Rebuilds floodplains and reduces erosion of streambanks

- Acts as a sponge to
  - hold water in streambanks and release water slowly, increasing the amount of water effectively available for irrigation,
  - maintain instream biota, and
  - improve ground water reserve

Healthy riparian areas support improved water quality...

- Help store flood waters and lessen the risk of flash floods

A healthy riparian-wetland area provides water and soil to encourage vegetation growth for a more productive animal community. It supports a large diversity of insect, mollusk, and crustacean species that are key resources in the food chain.

A healthy riparian-wetland area is of critical importance to fish, birds, and other wildlife species.

For fish, a healthy riparian-wetland area provides:

- Clean, cool water

- Stable channels

- Sustained water supply

- Improved streams for spawning and rearing by

...and reduce flood risk.

Healthy riparian communities support fish habitat.

Migratory waterfowl benefiting from water and cover in a healthy riparian area.

Livestock benefiting from shade and forage in a healthy riparian area.

reducing smothering silt deposits

- Other aquatic life for food
- Vegetation matter as a primary or secondary food source
- Shelter under overhanging banks
- Woody structure for channels

For birds, a healthy riparian-wetland area provides:

- Food, cover, and nesting sites during critical periods in the life cycle
- Migratory routes for many waterfowl and other bird species

For other wildlife species, healthy riparian-wetland areas:

- Provide water, food, and relief from extremes in temperature
- Give sheltered pathways to other habitats
- Support biological diversity for a wide array of game and nongame wildlife species

In addition, healthy riparian-wetland areas are beneficial to:

- Livestock because they provide forage, shade, protective shelter, and water

for sheep, cattle, and wild and domestic horses and burros

- People because they:

  - Provide recreationists with cool shade and soothing scenery; serene waters; and areas for fishing, water sports, picnicking, and camping

  - Contain important archeological and cultural resources

  - Allow for environmental education and scientific research on the most productive, sensitive, diverse, and often geographically limited ecosystems within the public lands

  - Improve water quality for downstream water users

Healthy riparian areas provide food, water, and cover for wildlife.

Approach to Management of Riparian-Wetland Areas

Background on BLM's Efforts

BLM has intensified its effort to restore riparian-wetland areas since 1985. This includes increasing interdisciplinary planning, on-the-ground improvements of riparian-wetland areas, monitoring of management actions, training of bureau employees on management techniques, and expanding working with volunteers to restore and enhance riparian-wetland areas (see Appendix C for specific accomplishments).

The Riparian-Wetland Initiative is currently incorporated into BLM's management processes in the following ways:

Planning

Riparian-wetland resources are addressed in the BLM planning process. This process is divided into three tiers. The first is the policy tier in which national goals, objectives, and priorities are established in accordance with laws, regulations, and other guidance. This Initiative is part of the policy tier. When used with other strategic plans such as Range of Our Vision, Recreation 2000, and Fish and Wildlife 2000, it provides the national planning base for restoration and management of riparian-wetland areas on BLM lands. State strategic plans provide more specific policy guidance and management direction.

The second is the land use planning tier, consisting of Resource Management Plans. At this level, resource conflicts, complementary relationships, and opportunities for improvement are analyzed and the best mix of multiple uses is determined.

The third tier is activity planning (e.g., Allotment Management Plans, Habitat Management Plans) in which site-specific resource objectives are established and appropriate management prescriptions outlined to implement resource decisions in land use plans.

Internal Program Coordination

Riparian-wetland areas involve three intricately related primary resources: vegetation, soil, and water. Virtually every BLM program influences and impacts riparian-wetland areas. Therefore, BLM strives to coordinate riparian-wetland activities with all programs, but especially with the range, wildlife and fisheries, and soil, water, and air programs. In the future, more emphasis will be placed on coordinating with such programs as forestry, minerals, and recreation.

Efforts are made to coordinate at all organizational levels and in all activities including inventory, planning, project implementation, and monitoring.

External Cooperation and Coordination

BLM recognizes that effective restoration of riparian-wetland areas involves informing and educating the public on the importance of healthy riparian-wetland areas. The success of BLM's restoration efforts hinges to a large degree on a spirit of cooperation and partnership with public land users, private landowners, conservation groups, and other agencies. Examples include participation in several riparian task groups and steering committees such as the Montana Riparian Association and the Oregon Watershed Improvement Coalition.

BLM fosters public involvement in identifying issues, considering management options, activity planning, and making recommendations for management on a general and site-specific basis. It also encourages public involvement in securing and coordinating funding from various sources, including contributed funds from conservation

Coordination with minerals program in Alaska.

organizations and user groups, grants, and monies available from various State and Federal programs.

It is BLM's standard policy to consult with the public, private organizations, other government agencies, colleges, and other parties on riparian-wetland matters to exchange knowledge, experience, and technology. This includes consulting with other Federal, State, and local entities on regulatory and permitting matters.

Cooperative Funding Process

Riparian-wetland activities are not funded as a program like recreation management or energy and minerals management. Funding for riparian-wetland activities has come through the wildlife and fisheries, range management, and soil, water, and air management programs. Funds are coordinated at the field levels so that each program contributes to the effort.

During fiscal year 1988, BLM first received increased funding of $250,000 to accelerate the riparian-wetland initiative. During fiscal year 1989, BLM spent approximately $6.3 million on riparian area management. Of that, $1.5 million was increased funding and $4.8 million came from base funds diverted from other activities. Approximately $8.1 million is programmed to be spent in fiscal year 1990. Of this, $1.9 million is increased funding and $6.2 million is base funding. Fish and wildlife management, range management, and soil, water, and air management programs each contribute about 25 percent to the total spent, with the remaining 25 percent coming from range improvement funds that are derived from grazing fees.

Public involvement in site specific issue resolution.

Status of Riparian-Wetland Areas

BLM expresses the status of riparian-wetland areas in the terms of management status, functioning condition, and ecological status.

Management Status

Riparian-wetland management status is expressed as "meeting objectives," "not meeting objectives," or "unknown." "Not meeting objectives" could be, for example, that the desired amount of willows is not present in the riparian-wetland area. "Unknown" indicates that inventory and monitoring information are lacking or that specific objectives for the riparian-wetland area have not been established.

As of 1990, 18 percent of riparian areas, which are one form of wetlands, were meeting objectives, 3 percent were not meeting objectives, and 79 percent were unknown (Table 2). Excluding Alaska, these figures are 7 percent, 8 percent, and 85 percent respectively. More quantitative data will become available as riparian-wetland inventories, plans, and monitoring efforts are completed. As this occurs, adjustments will be made in BLM riparian-wetland plans and status reports.

Functioning Condition

BLM expresses the status of riparian-wetland areas in terms of functioning condition. Functioning condition is an important measure of the health of riparian-wetland areas. Improving the functioning condition of these areas is the focus of BLM's riparian-wetland restoration goal. Riparian-wet-

Table 2. Current riparian area management status.

State	Meeting Objectives		Not Meeting Objectives		Unknown Status		Total Riparian Acres [1]
	Acres	Percent	Acres	Percent	Acres	Percent	
Alaska	1,280,000	19.5	120,000	1.8	5,163,000	78.7	6,563,000
Arizona	364	.8	540	1.3	42,026	97.9	42,930
California	4,286	31.6	6,893	50.8	2,386	17.6	13,565
Colorado	6,440	12.5	7,680	14.9	37,429	72.6	51,549
Eastern States [2]	—	—	—	—	13,000	100.0	13,000
Idaho	8,756	39.0	6,645	29.6	7,049	31.4	22,450
Montana [3]	6,410	8.8	1,590	2.2	65,000	89.0	73,000
Nevada	5,595	7.4	5,943	7.9	63,712	84.7	75,250*
New Mexico [4]	1,000	6.0	—	—	15,600	94.0	16,600
Oregon/ Washington	10,104	5.8	17,701	10.2	146,320	84.0	174,125
Utah	4,200	2.6	1,100	.7	154,700	96.7	160,000
Wyoming [5]	2,648	2.9	12,038	13.0	77,789	84.1	92,475
Total	1,329,803	18.2	180,130	2.5	5,788,011	79.3	7,297,944

[1] Based on Public Land Statistics, 1989, except where information was unavailable. Those items denoted by an asterisk are based on more recent data.
[2] Includes all states east of a line approximating the 100th Meridian.
[3] Includes lands in North Dakota and South Dakota.
[4] Includes lands in Oklahoma and Kansas.
[5] Includes lands in Nebraska.

land areas have the potential to function properly at all plant successional stages.

Riparian-wetland areas are in proper functioning condition when adequate vegetation is present and the following criteria are met:

- they dissipate energy associated with high water flows, thereby reducing erosion and improving water quality;
- they filter sediment and nutrients and aid in floodplain development;
- they contribute to root mass development that stabilizes banks against erosion;
- they develop diverse ponding and channel characteristics to provide the habitat and the water depth, duration, and temperature necessary for fish production, waterfowl breeding, and other uses; and
- they support greater biodiversity.

Ecological Status	Ecological Site 1	Ecological Site 2	Ecological Site 3
Potential Plant Community	Green ash/common chokecherry plant association	Geyer willow/beaked sedge plant association	Common cattail plant association
Late Seral	Decadent Great Plains cottonwood with an understory dominated by green ash and chokecherry	Fairly dense stand dominated by Geyer and Booth willow with an understory of beaked sedge	Common cattails with an understory of widely scattered field mint
Mid-Seral	Mature stand of Great Plains cottonwood with an understory of red-osier dogwood	Widely scattered individuals of Booth's and Geyer's willow with an understory dominated by Kentucky bluegrass or common timothy	Common cattails with an understory of smartweeds
Early Seral	Alluvial bar dominated by seedling stage of Great Plains cottonwood and sand bar willow	Kentucky bluegrass dominated site with a trace of Booth's or Geyer's willow	Recently exposed mud flat with young seedlings of common cattail and a wide variety of annuals

Figure 2. Riparian-wetland plant succession.

Ecological Status

Along with functioning condition, BLM expresses the status of riparian-wetland areas in ecological terms. Ecological status refers to the successional stage of vegetation currently occupying a site. Succession refers to the progressive change in plant communities on a site which leads to the final or relative stable plant community. The successional stages generally include the following: early seral (pioneer species), mid-seral, late seral, and potential plant community. Primary succession begins on bare surfaces not previously occupied by plants, such as recently deposited gravel bars. Secondary succession occurs following disturbances on sites that previously supported vegetation. Figure 2 gives examples of the general sequences of plant succession for three riparian-wetland sites.

In many cases, riparian-wetland areas will provide functional benefits if they are in the late seral to potential plant community stage. Therefore, BLM has the general goal of achieving advanced ecological status, except where resource

Montana Riparian Association

Potential plant community (climax) — site dominated by the green ash/ common chokecherry plant association.

Montana Riparian Association

Late seral stage — mature to decadent Great Plains cottonwoods stand with understory dominated by seedings, saplings, and poles of green ash and common chokecherry.

management objectives would require an earlier successional stage. The desired plant community may be at mid- to late seral stage.

There are cases where it may not be desirable to move into the last two stages, or at least not the last stage, of plant succession. For example, vegetation diversity, a desirable objective of riparian-wetland areas, may not occur at potential plant community stage. Maximum vegetation diversity occurs frequently at the mid- to late seral stages. Through land use plans and site-specific activity plans, BLM will determine the most desirable riparian-wetland plant community for meeting management objectives.

Montana Riparian Association

Mid-seral stage — early mature stand of cottonwoods with an understory of red-osier dogwood.

Montana Riparian Association

Early seral stage — alluvial bar dominated by Great Plains cottonwood.

Future Management of Riparian-Wetland Areas

The national policy goal that will guide future management is to maintain, restore, or improve riparian-wetland values to achieve a healthy and proper functioning condition, for the maximum long-term benefit of the American people.

Four major goals and associated strategies are outlined below for accomplishing the Riparian-Wetland Initiative for the 1990's. More detailed objectives and priorities will be established in State and District strategic plans. Also, hundreds of activity plans have been completed which contain even more specific objectives and planned actions. Individuals interested in this information can obtain copies of completed plans from appropriate BLM field offices.

Strategies identified herein have not been ranked in priority order. This will be accomplished as State and District strategies are implemented. Such factors as critical water quality problems, potential for improvement, risk of further degradation, threatened or endangered species habitat, fisheries, and recreation values will be considered in setting the priorities for restoration or treatment efforts.

Strategies will be implemented in various stages. For example, in those areas where plans are completed, project development can begin immediately. In other areas, inventories must be conducted to gather baseline data, which will facilitate planning and project design. Where plans have been implemented, there is a need for monitoring results of implementation efforts.

Still-water habitat.

Goal Number 1 — Restoration and Maintenance

Restoration of a Utah stream.

Restore and maintain riparian-wetland areas so that 75 percent or more are in proper functioning condition by 1997. The overall objective is to achieve an advanced ecological status, except where resource management objectives, including proper functioning condition, would require an earlier successional stage. This goal applies to each state, individually, except Alaska. Because Alaska may presently meet the goal, a higher level goal will be established in their State strategic plan.

Management Opportunities

Each state, in 1989, through individual strategies has identified their *riparian* inventory, planning, project development/maintenance, and monitoring needs. These are the projected needs for fiscal years 1991-1995 above the 1989 funding level. As more information becomes available, these 5-year needs will be updated. The nonriparian-*wetland* needs have been identified independently in Waterfowl Habitat Management on Public Lands, A Strategy for the Future. This strategy contains the most complete information available on nonriparian-*wetland* areas. Therefore, information from this strategy is used in this document to show the total wetland needs.

Strategies

1. Assure that all Resource Management Plans address riparian-wetland needs and that all plans are consistent with the State Nonpoint Source (NPS) Management Plans.

2. Inventory, prioritize, and initiate needed treatments on abandoned mines in riparian-wetland areas.

3. Inventory/Classification.

   a. Conduct extensive inventories and evaluations on 170 *wetland* management areas covering nearly 12 million acres, primarily in Alaska, by the year 2000. Inventories will use (mostly) topographic maps, aerial photographs, and satellite imagery. Approximate cost: $2.3 million.

A large scale aerial photo (1:2,400) provides a basis for mapping riparian areas.

b. Conduct intensive inventories on approximately 494,000 acres and 24,450 miles of *riparian* areas by 1995 to provide information to assess condition, establish site specific objectives, prepare plans, and identify restoration measures (Table 3). Approximate cost: $7.6 million.

4. Activity Plan Preparation/Revision.

a. Develop cooperative management agreements/activity plans for 183 *wetland* management areas covering in excess of 12 million acres, primarily in Alaska, by the year 2000. Approximate cost: $980,000.

b. Prepare or revise 1,413 activity plans (e.g., Allotment Management Plans, Watershed Management Plans) by the year 1995 to address *riparian* issues (Table 4). Activity plans will incorporate land use plan objectives and provide appropriate management (e.g., livestock grazing) prescriptions related to *riparian* area management. Approximate cost: $8.7 million.

5. Project Development/Maintenance.

a. Improve 1,719,886 acres of existing *wetlands* within 144 *wetland* management areas by the year 2000. Approximate cost: $5.5 million.

b. Expand 68 *wetland* areas by 80,000 acres through various management practices by the year 2010. Approximate cost: $8 million.

c. Implement approximately 4,200 *riparian*-related projects by the year 1995 (Table 5). Projects include, for example, water development, fencing, tree planting, and prescribed burning to facilitate management. Approximate cost: $30 million.

d. Maintain 12.5 million *wetland* acres, primarily in Alaska, in acceptable condition on 99 *wetland* management areas to ensure continued habitat productivity. Approximate cost: $1.8 million annually.

e. Maintain 4,546 *riparian*-related projects over the next 5 years (1991-1995) to ensure projects continue their usefulness (Table 5). Project maintenance would be performed by the BLM, cooperators, volunteers, permittees, and other land users. Approximate cost: $4.4 million.

6. Monitoring

Monitor 2,493 *riparian*-related plans or sites over the period 1991-1995 (Table 6). The effectiveness of management activities in achieving *riparian* goals and objectives will be evaluated. Revisions will be made in management prescriptions, associated enforcement, and treatments where *riparian* objectives are not being met. Approximate cost: $10 million.

Table 3. Additional riparian inventory for fiscal years 1991-1995.

State	Units Planned		Total Estimated Cost ($) [1]
	Miles	Acres	
Alaska	6,100	140,000	610,000
Arizona	1,120	34,700	494,700
California	140	23,460	591,400
Colorado	2,656	31,870	709,600
Eastern States	0	3,000	250,000
Idaho	1,598	10,400	319,000
Montana	4,500	36,500	570,000
Nevada	1,695	67,630	747,000
New Mexico	250	16,600	700,000
Oregon/Washington	1,938	48,000	1,100,000
Utah	1,000	20,000	750,000
Wyoming	3,452	62,050	803,400
Total	24,449	494,210	7,645,100

[1] Dollar requirements above the 1989 funding level.

Table 4. Additional activity plan preparation/revision related to riparian areas for fiscal years 1991-1995.

State	No. of Activity Plans	Estimated Cost ($) [1]
Alaska	15	400,000
Arizona	104	303,800
California	119	851,600
Colorado	181	596,000
Eastern States	21	105,000
Idaho	304	437,600
Montana	200	600,000
Nevada	122	579,000
New Mexico	45	900,000
Oregon/Washington	30	1,730,000
Utah	150	375,000
Wyoming	122	1,773,300
Total	1,413	8,651,300

[1] Dollar requirements above the 1989 funding level.

Black brant in Teshekpuk Lake, Alaska, a cooperative research effort with the U.S. Fish and Wildlife Service.

Monitoring the effectiveness of management activities near the Madison River, Montana.

Table 5. Additional riparian project development/maintenance for fiscal years 1991-1995.

State	Riparian Project Development		Riparian Project Maintenance	
	No. of Projects	Estimated Cost ($)	No. of Projects	Estimated Cost ($) [1]
Alaska	18	1,805,000	14	300,000
Arizona	206	2,080,000	95	275,000
California	398	4,544,200	748	484,000
Colorado	308	1,459,300	68	91,000
Eastern States	2	40,000	0	0
Idaho	687	3,318,000	1,309	459,000
Montana	500	4,000,000	500	30,000
Nevada	415	2,897,000	439	238,000
New Mexico	125	620,000	92	376,000
Oregon/Washington	300	6,400,000	300	450,000
Utah	300	550,000	300	1,430,000
Wyoming	918	2,413,100	681	231,900
Total	4,177	30,126,600	4,546	4,364,900

[1] Dollar requirements above the 1989 funding level.

Table 6. Additional riparian monitoring for fiscal years 1991-1995.

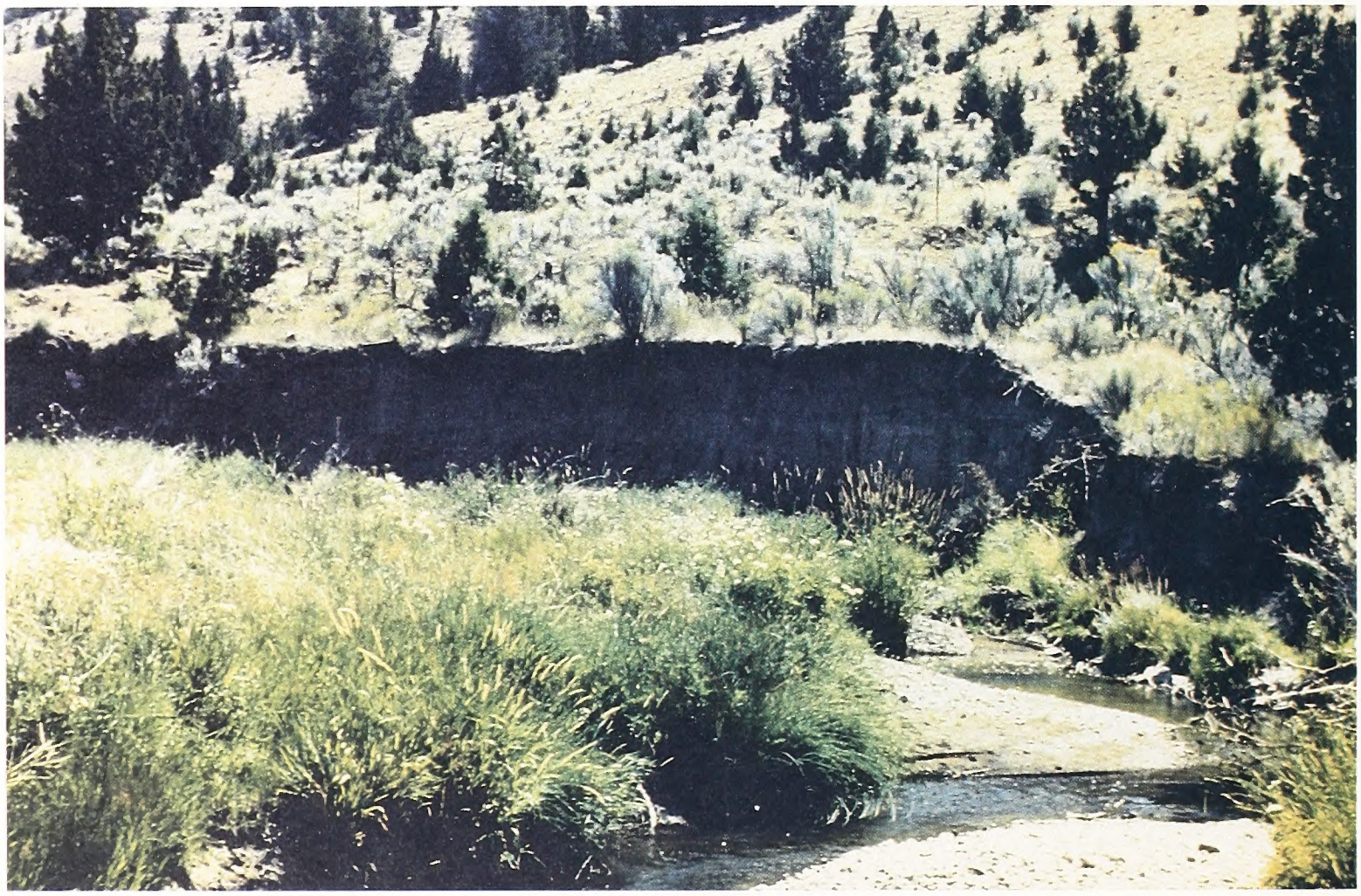
State	No. of Plans	Estimated Cost ($) [1]
Alaska	20	600,000
Arizona	119	682,400
California	67	721,600
Colorado	444	722,400
Eastern States	4	105,000
Idaho	190	1,100,000
Montana	650	300,000
Nevada	326	1,229,000
New Mexico	85	454,000
Oregon/Washington	130	2,500,000
Utah	250	600,000
Wyoming	208	958,600
Total	2,493	9,973,000

[1] Dollar requirements above the 1989 funding level.

Texas Creek, Colorado in 1976 before riparian management.

Texas Creek, Colorado in 1987 after implementation of riparian management.

Bear Creek, Oregon before riparian management (1976).



Bear Creek, Oregon after implementation of riparian management (1986).

Goal Number 2 — Protection

Protect riparian-wetland areas and associated uplands through proper land management and avoid or mitigate negative impacts. Acquire and expand key areas to provide for their maximum public benefit, protection, enhancement, and efficient management.

Management Opportunities

Protecting riparian-wetland areas from surface disturbing activities through avoidance, minimization of adverse impacts, compensatory actions, or other mitigation measures is an important part of the overall riparian-wetland initiative. Key riparian-wetland areas can be brought into public ownership, primarily through land exchange or donation.

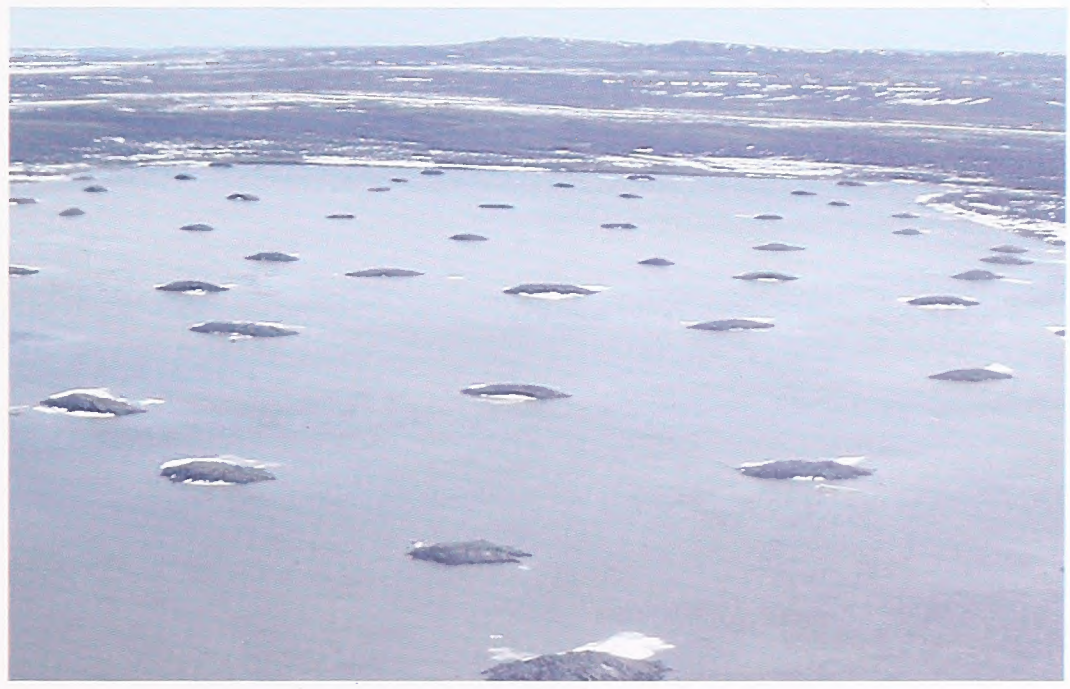
Strategies

1. Protect riparian-wetland areas through sound management practices and avoid negative impacts to the maximum extent practicable. If potential impacts have been avoided to the maximum extent practicable, then the remaining unavoidable impacts will be mitigated to the extent appropriate and practicable. When feasible, compensatory mitigation, such as creating wetlands, may be applied. Protective stipulations will be incorporated in land use authorizations and contracts to ensure that site-specific riparian-wetland management objectives are met. Where permits under Section 404 of the Clean Water Act are required, work with the Corps of Engineers (CORPs), Environmental Protection Agency (EPA), Fish and Wildlife Service (FWS), and others to assure compliance with the law.

2. Assure compliance with mitigating measures for surface disturbing activities such as road and pipeline construction, mineral exploration or development, recreation activities, and timber, grazing, and fire management practices. Monitor these activities to determine their success in mitigating impacts. Make adjustments as necessary.

3. As appropriate, identify critical or unique riparian-wetland areas that would benefit from special designation (i.e., Unique Waters, National Riparian Conservation Areas, Wild and Scenic Rivers, Areas of Critical Environmental Concern) through land use planning or other processes.

4. Using the procedural requirements of the various state laws, obtain on a case-by-case basis the rights or cooperative agreements for water necessary to sustain riparian-wetland areas and their associated uses. Site-specific studies will be conducted to determine water amounts, including instream



Enhancement of a wetland in Montana through the development of islands.

flows, needed to support healthy riparian-wetland values.

5. Ensure that land transfer actions retain riparian-wetland areas and dependent uplands in public ownership, unless disposal will be in the public interest, as determined through the land use planning process.

6. Seek opportunities with voluntary sellers to acquire key riparian-wetland areas through mutually beneficial transactions, primarily land exchanges.

7. Develop wetland acquisition packages on a state basis that are consistent with the wetland acquisition criteria included in the National Wetland Priority Conservation Plan. Submit proposals in accordance with the Land and Water Conservation funding priorities.

8. Control nonpoint source pollution as required by the Water Quality Act of 1987. Implement Best Management Practices (BMPs) to meet state and national water quality objectives.

9. Focus management on entire watershed using a holistic approach and involving all landown-

San Pedro River Riparian National Conservation Area in Arizona.

Wetlands acquisition of New River coastal area, Oregon.

Rock and wire drop structure on Big Creek, Utah.

Clover Creek, Shoshone District in Idaho, showing degraded riparian area after season-long grazing by cattle (1975).

Clover Creek, Shoshone District in Idaho, after implementation of livestock grazing prescription for a 15-year period (1990).

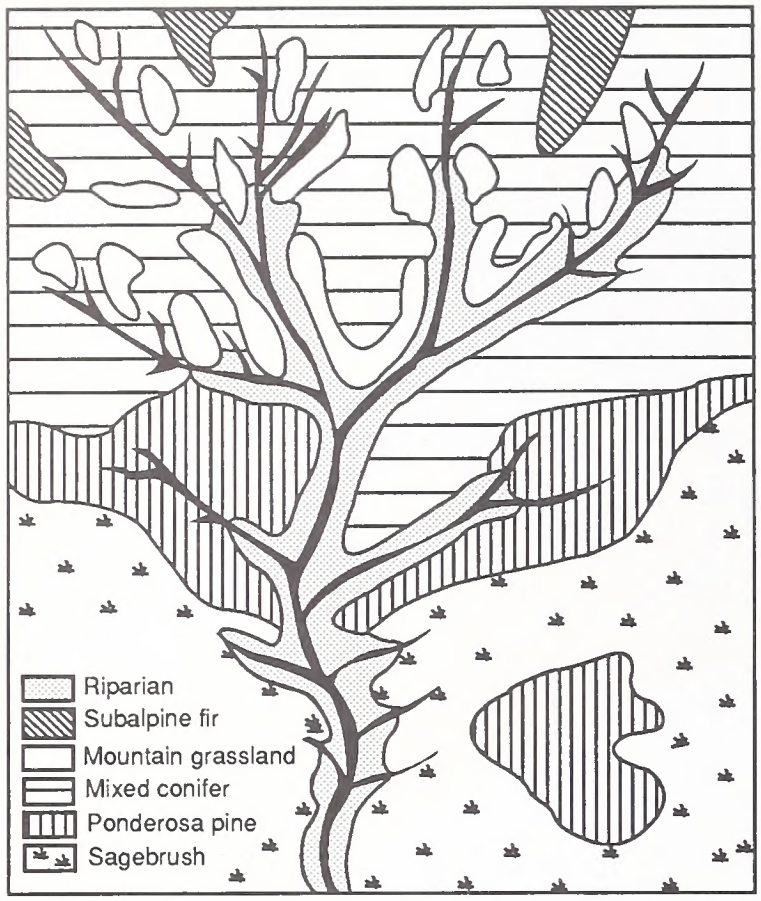


Figure 3. Computer graphic of "holistic" watershed approach to management

ers wherever possible (Figure 3). Manage riparian-wetland areas for their multiple uses while restoring and maintaining them in a healthy functioning condition. In certain situations (e.g., critical water quality, threatened and endangered species), it may be necessary to restrict some uses to achieve site specific objectives.

10. Use instream structures to improve/restore riparian-wetland areas only when other restoration efforts are inadequate to achieve the desired level of improvement. Take management actions and install treatments that rely on the natural riparian-wetland functions. This will allow riparian-wetland systems to maintain themselves, while remaining stable in the long term.

Goal Number 3 — Information and Education

Ensure an aggressive riparian-wetland information/outreach program, including providing training and research.

Management Opportunities

There is growing awareness among the general public and within BLM concerning the value and importance of healthy riparian-wetland areas. This awareness needs to be expanded. More information, training, and understanding of riparian-wetland area management is needed. Research is also needed to provide the scientific basis for management actions.

Strategies

1. Provide a greater understanding and appreciation for riparian-wetland values and functions. Accomplish this through an expanded program of media coverage, brochures, audio-visual exhibits, videos, and teaching material. Make presentations at workshops, conferences, and schools.

2. Continue to showcase areas in each state to demonstrate that through proper management, riparian-wetland areas can produce a variety of benefits. Showcase and demonstration areas can also be used for educational and scientific purposes.

3. Establish a Director's Riparian Stewardship Award to be given to individuals or groups that have contributed most to achieving riparian-wetland objectives on public lands.

4. Expand present training to address short and long-term problem-solving needs so that the technical and management skills required for planning and program implementation are available. Make this training more available to the public and other agencies.

South Fork of the Crooked River in Oregon before corrective management (1978).

South Fork of the Crooked River in Oregon 8 years after corrective management (1986).

5. Explore research opportunities in cooperation with university, Federal, or State researchers to identify riparian-wetland management strategies and techniques. Make sure that global climate change research projects give full consideration to riparian-wetland area research needs.

6. Focus training, information, and research on the compatibility of economic uses of riparian-wetland areas in keeping with BLM's multiple-use mandate.

Goal Number 4 — Coordination and Cooperation

Improve partnerships and cooperative restoration and management in implementing the riparian-wetland initiative.

Management Opportunities

Because riparian-wetland ecosystems do not begin or end at land ownership boundaries, a cooperative management effort is absolutely essential. To be successful, every riparian-wetland management effort requires cooperation and coordination with all affected parties.

Joint funding ventures, such as Challenge Cost Share Funding Programs, permittee contributions, and other private assistance are excellent approaches to financing high-priority management projects. Such opportunities extend existing funding and confirm effective partnerships.

Organizations such as the Public Lands Restoration Task Force of the Izaak Walton League of America, Inc., Trout Unlimited, and others work with the BLM's Volunteer Program to encourage and facilitate valuable volunteer assistance. Such volunteer assistance not only helps to complete projects and perform required maintenance, but it also heightens public appreciation of the value of the riparian-wetland resources. In addition, to achieve management excellence it is essential that

The Badger Creek watershed plan has been submitted for funding under the Clean Water Act. The plan is the result of interagency/landowner cooperation.

BLM improve its management processes in such areas as technical guidance, tracking accomplishments, and monitoring progress.

Strategies

1. Promote a coordinated, cooperative effort. Encourage private landowners, resource users, interested public and organizations, and other government agencies to join with the BLM in a partnership effort to maintain and restore riparian-wetland areas. Encourage and assist individuals, public land users, and groups wishing to volunteer time and labor in riparian-wetland enhancement projects.

2. Expand the outreach activities to encourage more private individuals or groups and government agencies to work jointly to develop and implement riparian-wetland enhancement projects. Maintain and improve coordination with interagency committees, task forces, associations, and councils.

3. Develop and implement standardized riparian-wetland inventory, classification, evaluation, management, monitoring, and data handling procedures. Complete the riparian-wetland ecological site description/ classification task. Incorporate existing technical references in day-to-day management.

4. Integrate the riparian-wetland initiative with other BLM initiatives such as Fish and Wildlife 2000, Recreation 2000, Watchable Wildlife, Recreational Fisheries Policy, and The Range of Our Vision.

5. Update or establish new cooperative agreements/ memoranda of understanding as necessary to address riparian-wetland management needs.

6. Develop and implement a system to track progress in meeting objectives, and to report accomplishments and expenditures made on behalf of the Initiative.

7. Strengthen use of interdisciplinary teams in formulating riparian-wetland objectives, multiple-use management strategies, and proposed actions. Range conservationists, soil scientists, hydrologists, wildlife biologists, fishery biologists, recreation planners, and others will all work together. Management officials at all levels will be involved in making the necessary decisions.

8. Coordinate with FWS on Regional Fish and Wildlife Concept Plans, Wetlands Inventory Projects, Stewardship 2000, and other activities outlined in the FWS Wetlands Action Plan. Work with U.S. Geological Survey, Bureau of Mines, and others on water quality, hydrologic and geologic studies, and reclamation related to riparian-wetland areas. Coordinate with Bureau of Reclamation, Forest Service, Soil Conservation Service, and other appropriate agencies on the land management aspects of riparian-wetland enhancement.

Volunteers labor to enhance Bonito Creek near Roswell, New Mexico.

Bonita Creek, Arizona in 1984 shows the effects of a deteriorating watershed.

The same creek in 1988 exhibits the results of working with landowners.

Estimated Costs and Human Resources

Wetland Improvement Strategies

Strategies	Estimated Cost [1]
Inventory and Evaluation	2,250,000
Habitat Improvements	5,527,200
Cooperative Agreements/Plans	980,000
Coordination and Partnerships	650,000
Management Actions/Practices	465,000
Habitat Expansion (new wetlands)	8,032,500
Habitat Acquisition	23,912,500
Habitat Maintenance	1,768,400
Total	43,585,600

[1] All costs are 10-year (2000) implementation costs except habitat expansion and acquisition costs which are 20-year (2010) costs, and habitat maintenance, which is an annual cost.

Figure 4. Estimated costs to implement strategies for wetlands.

Recommended strategies for achieving the wetland portion of this Initiative are presented in detail in Waterfowl Habitat Management on Public Lands, a Strategy for the Future. The costs to implement these recommended strategies are shown in Figure 4.

Riparian Area Management Strategies

Strategies	Estimated Cost [1]
Inventory	3,024,000 / 7,645,100
Activity Plan Preparation/Revision	3,408,000 / 8,651,300
Project Development	11,904,000 / 30,126,600
Project Maintenance	1,728,000 / 4,364,900
Monitoring/Evaluation	3,936,000 / 9,973,000
Total	24,000,000 / 60,760,900

Base Funding Requirements

Additional Requirements

[1] Total cost of implementation is approximately $85 million, which includes $24 million ($4.8 million annually) of base funding and additional requirements of $61 million ($12.2 million annually) over 5 years.

Figure 5. Estimated costs to implement strategies for riparian areas.

The base funding and additional costs over the next 5 years to implement the riparian strategies are shown in Figure 5.

Human Resources Needs

The increased numbers and types of skills needed to implement the riparian management strategies of this Initiative are summarized in Figure 6. Range conservationists are urgently needed to assist in determining ecological site potential and desired plant communities, design and implement grazing prescriptions and practices, supervise livestock use, and monitor effects of management. Fish and wildlife biologists are needed to assess habitat requirements and assist in designing and implementing management practices, as well as in monitoring. Hydrologists and soil scientists are needed to analyze soil-water interactions. Engineers are also needed, as are various support, procurement, and temporary positions to help in all aspects of riparian-wetland restoration and management.

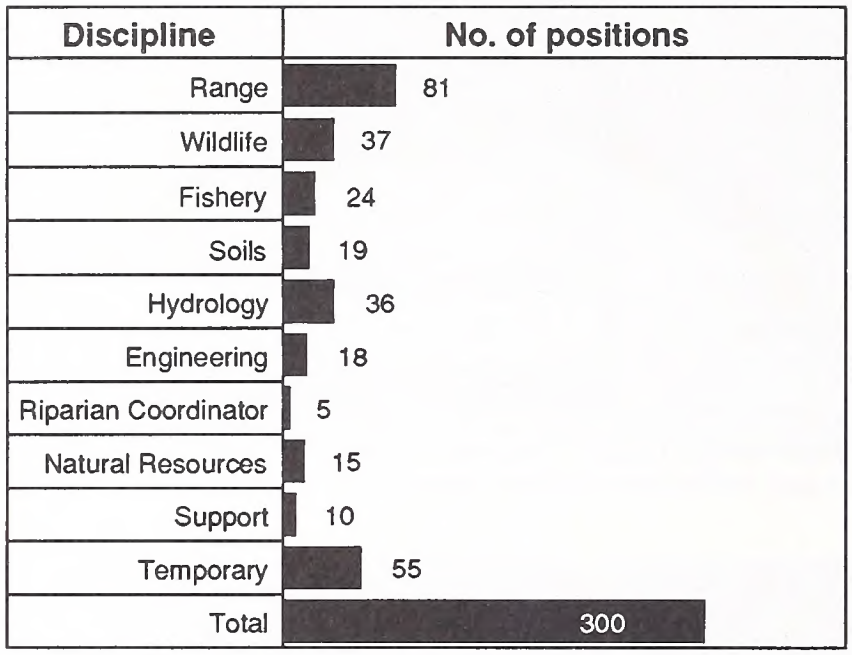


Figure 6. Additional staff needed to implement riparian-wetland initiative.

Appendix A

Glossary

Ecological Terms

Seral Stage — One of a series of plant communities that follows another in time on a specific site.

Potential Plant Community — Represents the seral stage the botanical community would achieve if all successional sequences were completed without interference by man under the present environmental conditions.

Ecological Site — An area of land with a specific potential plant community and specific physical site characteristics, differing from other areas of land in its ability to produce vegetation and to respond to management. Ecological site is synonymous with range site.

Ecological Status — The present state of vegetation and soil protection of an ecological site in relation to the potential plant community for the site. Ecological status is the expression of the relative degree to which the kinds, proportions, and amounts of plants in a community resemble that of the potential plant community. The four ecological status classes correspond to 0-25, 26-50, 51-75, or 76-100 percent similarity to the potential plant community and are generally called early seral, mid-seral, late seral, and potential plant community, respectively.

Proper Functioning Condition — The functioning condition of riparian-wetland areas is a result of interaction among geology, soil, water, and vegetation. Riparian-wetland areas are functioning properly when adequate vegetation is present to dissipate stream energy associated with high water flows, thereby reducing erosion and improving water quality; filter sediment and aid floodplain development; improve floodwater retention and groundwater recharge; develop root masses that stabilize streambanks against cutting action; develop diverse ponding and channel characteristics to provide the habitat and the water depth, duration, and temperature necessary for fish production, waterfowl, breeding, and other uses; and support greater biodiversity.

Ecosystem — An interacting natural system with the component organisms and the abiotic environment functioning as a whole.

Biological Diversity — The variety and variability among living organisms and the processes that support them in a specific area.

Planning Terms

Goal — The desired state or condition that a resource management policy or program is designed to achieve.

Strategy — Action necessary to achieve a goal.

Activity Plan — A detailed and specific plan for a single resource program to implement the more general resource management plan (RMP) decisions.

Allotment Management Plan (AMP) — A document prescribing the manner in and extent to which livestock grazing is conducted and managed in a geographic area to meet objectives as determined through the resource management plan (RMP).

Habitat Management Plan (HMP) — A written and approved activity plan for a geographical area

that identifies wildlife habitat management actions to be implemented to achieving specific objectives identified in the RMP.

Area of Critical Environmental Concern (ACEC) — An area where special attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values; fish and wildlife resources; or other natural systems or processes; or to protect life and safety from natural hazards.

Resource Management Plan (RMP) — A comprehensive land use plan that, in broad terms, identifies the management actions for a specific area. RMPs set allowable and restricted resource uses, supporting actions, needs for more detailed plans such as Activity Plans, and a general schedule for implementation, monitoring, and evaluation. The RMP process includes public involvement as a key component in its development and implementation.

Holistic Watershed Approach — Management of riparian-wetland areas on an entire watershed basis, including the uplands, rather than focusing on the narrow riparian-wetland zone.

State Strategic Plan — A statewide plan that translates the goals and objectives of the BLM's Riparian-Wetland Initiative into on-the-ground actions; it provides integrated direction to all resource programs and informs the public within the state of the actions to be taken.

Water Quality Terms

Best Management Practices (BMPs) — Methods, measures, or practices to prevent or reduce water pollution, including, but not limited to, structural and nonstructural controls and operation and maintenance procedures. Usually, BMPs are applied as a system of practices rather than a single practice. BMPs are selected on the basis of site-specific conditions that reflect natural background conditions and political, social, economic, and technical feasibility.

Nonpoint Source (NPS) — A water quality term used for pollutants discharged by natural processes (precipitation, seepage, percolation, and runoff) that are not traceable to any discrete, discernable, or confined conveyance facility.

Appendix B

National Riparian Policy Statement

Bureau of Land Management
Riparian Area Management Policy

BACKGROUND

Riparian areas are unique and among the most productive and important ecosystems, comprising approximately 1 percent of the public lands. Characteristically, riparian areas display a greater diversity of plant, fish, wildlife, and other animal species and vegetation structure than adjoining ecosystems. Healthy riparian systems filter and purify water as it moves through the riparian zone, reduce sediment loads and enhance soil stability, provide micro-climate moderation when contrasted to extremes in adjacent areas, and contribute to groundwater recharge and base flow.

DEFINITIONS

Riparian Area - an area of land directly influenced by permanent water. It has visible vegetation or physical characteristics reflective of permanent water influence. Lake shores and stream banks are typical riparian areas. Excluded are such sites as ephemeral streams or washes that do not exhibit the presence of vegetation dependent upon free water in the soil.

Riparian Area-Dependent Resources - resources such as water, vegetation, fish, and certain wildlife that owe their existence to the riparian area.

OBJECTIVE

The objective of riparian area management is to maintain, restore, or improve riparian values to achieve a healthy and productive ecological condition for maximum long-term benefits.

POLICY STATEMENTS

In order to meet the foregoing objective, the Bureau will to the extent practical:

- Achieve riparian area improvement and maintenance objectives through the management of existing uses wherever feasible.
- Ensure that new resource management plans and activity plans, and existing plans when revised, recognize the importance of riparian values, and initiate management to maintain, restore, or improve them.
- Prescribe management for riparian values that is based upon site-specific characteristics and settings.
- Give special attention to monitoring and evaluating management activities in riparian areas and revise management practices where site-specific objectives are not being met.
- Cooperate with and encourage the involvement of interested Federal, State, and local governments and private parties to share information, implement management, coordinate activities, and provide education on the value, productivity, and management of riparian areas.
- Retain riparian areas in public ownership unless disposal would be in the public interest, as determined in the land use planning system.
- Identify, encourage, and support research and studies needed to ensure that riparian area management objectives can be properly defined and met.

Robert J. Burford
Director, Bureau of Land Management

JAN 22 1987
Date

Appendix C

Accomplishments

Initiatives

The Bureau intensified implementation of riparian-wetland management efforts in late 1985 with a number of initiatives which resulted in:

- Policy development at the national, state and district levels, including issuance of the 1987 BLM National Riparian Area Management Policy (see Appendix B).

- Publication of four technical reference documents to aid in management: A Selected, Annotated Bibliography of Riparian Area Management, 1987; Use of Aerial Photography to Inventory and Monitor Riparian Areas, 1987; Inventory and Monitoring of Riparian Areas, 1989; and Grazing Management in Riparian Areas, 1989 (see Appendix G).

- Public education material, including videos and a state-of-the-art training course entitled Coordinated Riparian Area Management. Three sessions have been held annually and they are attended by other agencies' personnel, ranchers, environmentalists, etc., as well as by BLM personnel (see Appendix G).

- Publication of the Waterfowl Habitat Management on Public Lands, A Strategy for the Future in February 1989 which identifies opportunities and strategies required to accomplish national level waterfowl and wetland goals outlined in Fish and Wildlife 2000 (see Appendix G).

- Development of a Bureau Riparian-Wetland Manual to provide overall guidance and a riparian-wetland inventory/classification system based on the ecological site concept.

- Preparation of state riparian strategy plans by each BLM state that outlines policy, goals and objectives, and actions for implementation (see Appendix G).

On-the-Ground Accomplishments

In fiscal years 88 and 89, BLM has:

- Inventoried 770,000 riparian and wetland acres,

- Prepared activity plans on 138 areas with riparian-wetland objectives,

- Completed 1,250 riparian improvement projects,

- Maintained 1,060 riparian projects to continue their beneficial use, and

- Monitored 1,600 sites or plans to determine if management objectives are being met.

Acquisitions

The Bureau is actively acquiring riparian-wetland areas through exchange, donation, or purchase, especially in areas adjacent to Waterfowl Habitat Management Areas or in areas that are critical for threatened or endangered species. Examples of recently acquired key riparian-wetland areas include:

- 100 miles of streamside riparian-wetland areas in Arizona have been brought into public

ownership through exchange, including the San Pedro River which was designated as the Nation's first Riparian National Conservation Area;

- 7,888 acres in the Warner Lakes Potholes, Oregon;
- 120 acres in the New River Estuary, Oregon;
- over 250 acres along the Sacramento River, California;
- 3 miles and 250 acres of riparian-wetland areas on Beaver Creek in Prairie Potholes area of north central Montana;
- 22 miles of critical fish spawning habitat on Bridge Creek and 8 miles of river frontage on the wild and scenic John Day River in central Oregon;
- over 6 miles of Shoshone Creek in Idaho which includes several springs and over 2,500 acres of riparian-wetland and upland wildlife habitat;
- 3,690 acres in New Mexico in six separate riparian-wetland tracts;
- 6 miles on Kid Creek and the Little Missouri River in North Dakota;
- 600 acres on Howerly Island in the Yellowstone River in Montana;
- 10,000 acres in Central Valley, California.

Local Coalitions

BLM offices in such states as California, Colorado, Utah, Oregon, Wyoming, and Montana have been instrumental in establishing grassroots level coalitions of conservation groups; livestock interests; and State, local and Federal agencies to help develop management strategies and implement on-the-ground projects, and to acquire additional lands.

Instream Flow

Detailed water studies of riparian-wetland dependent values have been conducted, for example:

- in Alaska on Gulkana River, Delta River, and Birch Creek;
- in Arizona on the San Pedro River, Bill Williams River, Peoples Canyon Creek, Aravaipa Creek, and Burro Creek;
- in Colorado on the Dolores River;
- in Montana on 21 tributaries to the Powder River.

In Montana, instream flow reservations have been filed on 65 streams. The Bureau has received State-appropriated instream flow rights on Beaver Creek in Alaska and Aravaipa Creek in Arizona.

Showcase Areas

Areas have been established in each state to demonstrate that well-managed riparian areas can produce a variety of multiple-use benefits while maintaining a healthy riparian system (see Appendix F). A number of demonstration areas that are more limited in scope have also been established in many districts.

Workshops, Training, and Tours

These have been conducted in most states to explain the Bureau's riparian-wetland management initiative and encourage assistance from widely divergent parties.

Appendix D

Legislation, Executive Orders, and Policy

The following laws, regulations, and Executive Orders provide the foundation for management of riparian-wetland areas on public lands.

Laws

Taylor Grazing Act of 1934. Directs the Secretary of the Interior to stop injury to the public lands including riparian-wetland areas by preventing overgrazing and soil deterioration, and to provide for their orderly use, improvement, and development.

Land and Water Conservation Fund Act of 1964. Establishes a fund to preserve, develop, and assure access to outdoor recreation resources.

National Environmental Policy Act of 1969. Requires Federal agencies to initiate and use ecological information to analyze the planning and development of resource-oriented projects including those affecting riparian-wetland areas.

Coastal Zone Management Act of 1972. Encourages states, with the cooperation of the Federal Government, to develop and implement management plans to preserve, develop, and where possible, enhance resources of the nation's coastal zones.

Endangered Species Act of 1973. Requires Federal agencies to ensure that proposed actions do not jeopardize the continued existence of a threatened or endangered species or cause its critical habitat to be adversely modified or destroyed.

Federal Land Policy and Management Act of 1976. Requires that the public lands be managed in a manner that will protect the quality of ecological, environmental, and water resources values, among others, including riparian-wetland areas.

Clean Water Act of 1977 (Federal Water Pollution Control Act). Provides for protection, restoration, or improvement of water quality, including riparian-wetland areas.

Food Security Act of 1985 (Farm Bill). Provides incentives for riparian-wetland protection and restoration on farmlands.

Emergency Wetland Resources Act of 1986. Promotes the conservation of riparian-wetland areas by intensifying cooperative efforts among state, private, and Federal interests.

Water Quality Act of 1987 (Amendment to Clean Water Act). Establishes program to manage nonpoint source pollution.

Executive Orders

Executive Order 11988 (Floodplain Management). Mandates a reduction in hazards to human safety; preserves values served by floodplains.

Executive Order 11990 (Protection of Wetlands). Minimizes destruction, loss, or degradation of wetlands.

Policies

Interior Department Manual 520. Provides for preservation, protection, and acquisition of riparian-wetland areas, as necessary.

BLM Manual 1737. Provides guidelines for protecting and acquiring riparian-wetland areas as needed to preserve this habitat type.

Appendix E

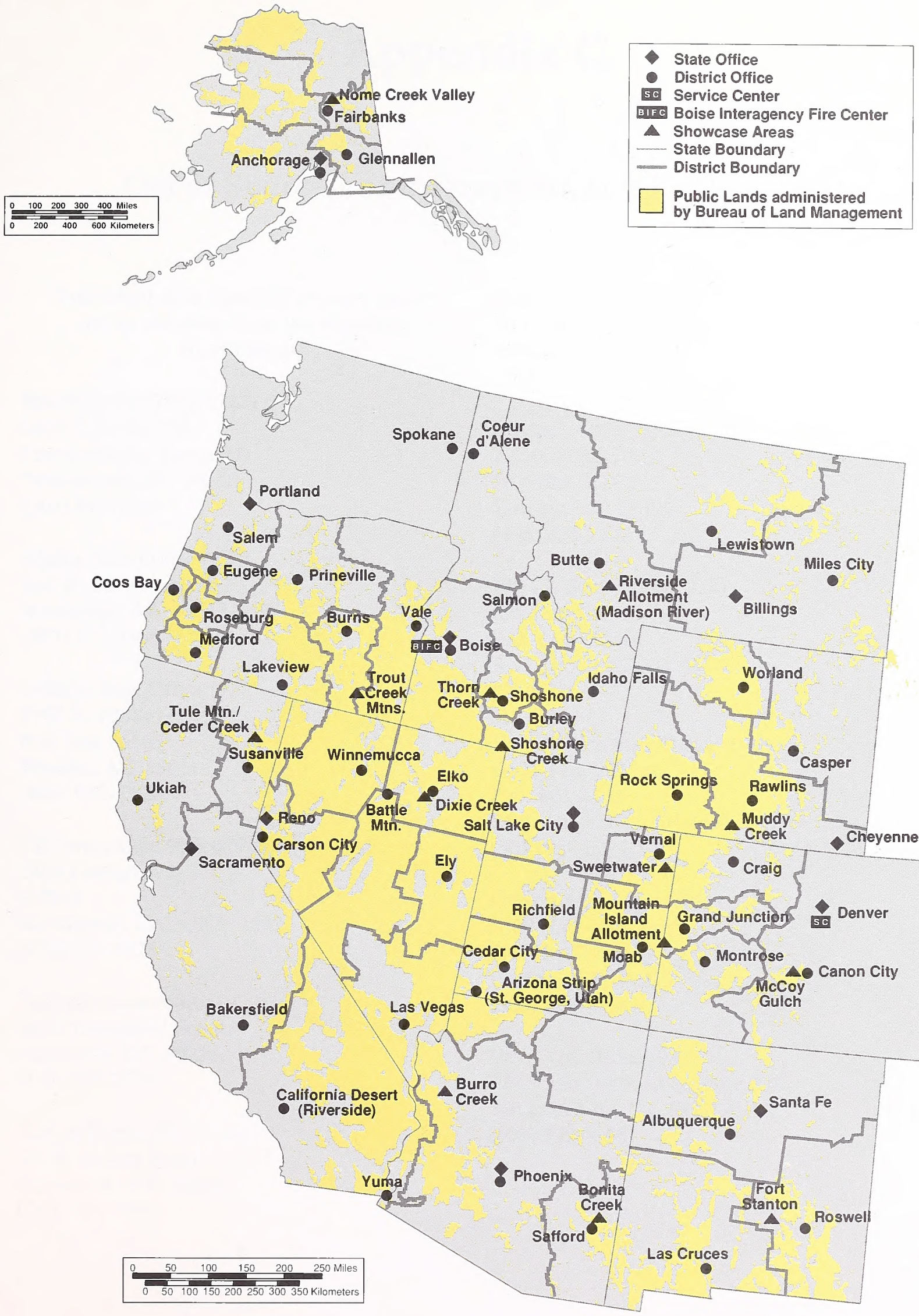
Summary of 5-Year Additional Riparian Funding Requirements by State

State	Additional Dollar Requirements (millions)[1]
Alaska	3.7
Arizona	3.8
California	7.2
Colorado	3.6
ESO	0.5
Idaho	5.6
Montana	5.5
New Mexico	3.1
Nevada	5.7
Ore. Eastside	6.2
Ore. O&C	6.0
Utah	3.7
Wyoming	6.2
Total	$60.8 million

[1] $61 million are required in addition to $24 million ($4.8 million annually) of base funding for a total of $85 million over 5 years.

Appendix F

Map of Showcase Areas on Public Lands in Western U.S.


Nome Creek Valley
Fairbanks
Anchorage
Glennallen
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State Office
District Office
SC Service Center
BIFC Boise Interagency Fire Center
Showcase Areas
State Boundary
District Boundary
Public Lands administered by Bureau of Land Management
Spokane
Coeur d'Alene
Portland
Salem
Eugene
Prineville
Coos Bay
Roseburg
Medford
Burns
Vale
BIFC Boise
Salmon
Butte
Riverside Allotment (Madison River)
Billings
Lewistown
Miles City
Lakeview
Trout Creek Mtns.
Thorn Creek
Shoshone
Idaho Falls
Worland
Tule Mtn./ Ceder Creek
Susanville
Winnemucca
Shoshone Creek
Burley
Casper
Ukiah
Elko
Dixie Creek
Rock Springs
Rawlins
Reno
Battle Mtn.
Salt Lake City
Muddy Creek
Cheyenne
Carson City
Sacramento
Ely
Vernal
Sweetwater
Craig
Richfield
Mountain Island Allotment
Grand Junction
SC Denver
Cedar City
Moab
Montrose
Canon City
Arizona Strip (St. George, Utah)
McCoy Gulch
Bakersfield
Las Vegas
California Desert (Riverside)
Burro Creek
Santa Fe
Albuquerque
Yuma
Phoenix
Borlita Creek
Fort Stanton
Roswell
Safford
Las Cruces
0 50 100 150 200 250 Miles
0 50 100 150 200 250 300 350 Kilometers

Appendix G

List of Sources for Information and Publications

Individual state riparian strategy plans can be obtained from the following BLM offices:

Headquarters Office (222)
1849 C Street, NW.
Premier Bldg., Room 909
Washington, DC 20240
(202) 653-9210

Alaska State Office (930)
222 W. 7th Avenue #13
Anchorage, AK 99513-7599
(907) 271-3356

Arizona State Office (932)
3707 N. 7th Street
P.O. Box 16563
Phoenix, AZ 85011
(602) 640-5509

California State Office (932)
2800 Cottage Way
E-2841
Sacramento, CA 95825-1889
(916) 978-4725

Colorado State Office (933)
2850 Youngfield Street
Lakewood, CO 80215
(303) 239-3718

Eastern States Office (960)
350 S. Pickett Street
Alexandria, VA 22304
(703) 461-1307

Idaho State Office (931)
3380 Americana Terrace
Boise, ID 83706
(208) 384-3066

Montana State Office (931)
222 N. 32nd Street
P.O. Box 36800
Billings, MT 59107
(406) 255-2928

Nevada State Office (931)
850 Harvard Way
P.O. Box 12000
Reno, NV 89520-0006
(702) 785-6473

New Mexico State Office (931)
South Federal Place
P.O. Box 1449
Santa Fe, NM 87504-1449
(505) 988-6231

Oregon State Office (932)
1300 N.E. 44th Street
P.O. Box 2965
Portland, OR 97213
(503) 280-7054

Utah State Office (932)
324 South State Street, Suite 301
Salt Lake City, UT 84111-2303
(801) 539-4058

Wyoming State Office (932)
2515 Warren Avenue
P.O. Box 1828
Cheyenne, WY 82003
(307) 775-6256

Technical reference documents can be obtained from:

Bureau of Land Management
Service Center
Printed Materials Distribution Section
Building 50, Denver Federal Center
P.O. Box 25047
Denver, CO 80225-0047
(303) 236-7637

Training courses and videos can be obtained from:

Bureau of Land Management
Phoenix Training Center
5050 N. 19th Avenue
Suite 300
Phoenix, Arizona 85015
(602) 640-2651